

The development of individual self-efficiency among university students

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Abstract

The requirements of modern society for the training of highly qualified and personally effective specialists who can quickly adapt to changing conditions and successfully carry out their professional activities are on the increase. The purpose of our work was the development of the personal self-efficacy of students at universities of the Republic of Kazakhstan in the modern conditions of the development of society. The research collected data using an experiment. The experimental study was carried out in higher educational institutions - and the experiment involved 280 students: 140 - in the experimental group, 140 - in the control group. The results of the study confirmed the effectiveness of the proposed concept of developing students' self-efficacy. Developed and experimentally tested psychological conditions for the development of personal self-efficacy of university students can be widely used in higher education institutions.

Keywords: achievement; development concept; psychological conditions; self-confidence; self-development; self-efficacy.

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1. Introduction

State requirements for higher education in the Republic of Kazakhstan (hereinafter - RK), reflected in the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2020 - 2025, are aimed at developing the independence and competitiveness of students' personality. The need to increase the level of personal self-efficacy of students is reflected in the main provisions of the state compulsory Standard of higher education of the Republic of Kazakhstan (hereinafter - Standard, 2018), where the educational process and the entire educational environment of the university should be focused on "the formation of skills of self-development and education throughout life; the formation of a personality capable of mobility in the modern world, critical thinking, and physical self-improvement" (Standard, 2018).

President of the Republic of Kazakhstan Kassym-Zhomart Tokayev in his article "Abai and Kazakhstan in the XXI century." dedicated to the upcoming 175th anniversary of the birth of the great Kazakh poet and thinker showed the importance of his works and edification words for modern society (Tokayev, 2020). He noted that AbaiKunanbayuly urged young people to be educated, highly intellectual, and master different types of art. The great thinker strove with every word to grow the nation, spoke of the need to strive for personal growth and self-improvement for full self-development.

The philosopher also spoke about the need to form social responsibility, personal activity, hard work, and self-efficacy of young people for the good of their people and to make their contribution to the development of society (Tokayev, 2020). Abai's formula "Whole person" reflects the solution to this complex problem. The concept of "whole person" corresponds to the English term Amanofintegriti. "Whole person" is a very self-confident person who strives for good and good. This concept of self-efficacy of the individual has already been incorporated in the writings and edifications of Abai. Abai says: "Keep your mind, strength, heart equal, then you will be a full-fledged person. In addition to a clear mind and willpower, a person needs a kind heart. He considers these three concepts constantly in unity and believed that willpower leads to self-realization and the effective use of their abilities to achieve their goals.

The poet always called on young people to be active, proactive, cheerful, and sensitive, and not to be distracted by various entertainments, wasting time. In the writings of the thinker, the psychological aspects of the struggle against laziness are reflected, where he argued that through work and rational actions one can overcome anxiety and laziness. He also talked about the need to develop emotional intelligence for the full development of a personality. In his opinion, young people should diligently seek knowledge and work hard to effectively spend every moment of their time. We believe that Abai's words are very appropriate for the personal development of modern youth since, in the present era of globalization and modernization of society, the productive work of each individual will contribute to the development of the country (Abuov et al., 2020).

1.1. Related research

Such a personal quality as self-efficacy is of indisputable importance for personal and professional development, as well as the self-realization of students in higher educational institutions (Saienko et al., 2020). In a broad sense, self-efficacy is defined as the systematic process of transferring information and shared understanding from one communication participant to another. The methodological foundations of the various options for updating and developing self-efficacy proposed in this article as one of the directions for the implementation of psychological and educational support at the stage of professional training of students are:

1) the principles of systemic anthropological psychology, within which a person is understood as an open system, and human development is viewed as self-development, i.e., as the transition of a person's capabilities (his abilities and potencies) into reality (Klochko, 2009; Krasnoryadtseva, 2007);

2) the principles of systemic determination (Klochko & Galazhinsky, 2009), which allow revealing the psychological mechanisms of the transition of possibility into reality;

3) the principles of the theory of trans communication (Kabrin, 2011), in which the formation of the human lifeworld is understood as the result of the organization of a special communicative space that is formed in the process of educational activity, which involves the actualization of certain social, personal, professional competencies.

In psycho-emotional practice, the definition of "self-efficacy" was derived by Bandura and Adams (1977) in the paradigms of the social-cognitive concept, which confirms that the behavior of an individual is influenced by three interdependent aspects: activity, social environment, and internal subjective aspects, including self-efficacy. According to Bandura and Adams (1977), "the expectation of efficiency presupposes a worldview that an individual can successfully implement the behavior necessary to achieve results". Self-efficacy boils down to realizing the individuality of oneself as an efficiently acting subject, inclined to function and deal with the most complex specific situations, constructively solving various internal and external problems. Low self-efficacy leads to a refusal to actively solve the problems that have arisen, an inability to reflect on one's behavior and activities, and stereotyped behavior in different situations. Also, people with low personal self-efficacy tend to expect failure, trouble, negative emotions, such as anxiety, despair.

High self-efficacy, in every possible way, allows an individual to maximally reveal his creative resource, self-actualize in a difficult activity for himself, it is associated with the expectation of a beneficial effect, positive emotions. Bandura and Adams' (1977) foreign followers increase the notion of self-efficacy, transferring their research enthusiasm to social psychology and pedagogy (Caprara & Servon, 2003; Frager & Feidiman, 2019; Schwarzer & Jerusalem, 2010; Sherer et al., 1982), emphasizing their attention to various types of self-efficacy (Schwarzer & Jerusalem, 2010), on its interconnection with other subjective constructs (Caprara & Servon, 2003), on the formation of self-efficacy in the scientific and educational process (Frager & Feidiman, 2019).

Monitoring of psychological, scientific, and psychological literature shows that the phenomenon of self-efficacy is intensively studied by Russian researchers (Romek, 1996; Krichevsky, 2001; Gaidar, 2008; Gonchar, 2012). How, Krichevsky (2001) characterizes self-efficacy as the conviction of individuals in their abilities to activate motivational and mental resources, psychophysiological efforts on self-regulation of educational, cognitive and communicative activities" (Gonchar, 2012).

In the studies of Gaidar (2008), self-efficacy is understood as a person's idea of their abilities to be fruitful in realizing the goals of the activity, his conviction that he will learn to manage his behavior in various problem situations (Wong & Yang, 2021). Romek (1996) makes the thesis that self-efficacy is to a greater extent connected with the decisiveness of the individual and his self-confidence. He believes that "self-confidence is the most generalized personal characteristic, whereas self-efficacy is highly specific, it characterizes to a greater extent the success of the activity performed by the individual" (Gaidar, 2008).

As a result of studying the problem of developing self-efficacy of students, we found the following contradictions in literature:

- between the need, in the light of the State Compulsory Standard of Higher Education of the Republic of Kazakhstan, to ensure the formation of self-development skills of university students

capable of effective implementation of educational, cognitive, and communicative activities and the inability of the majority of modern youth to reflect on their behavior and activities;

- between the need of modern society for highly qualified psychologists who have a high level of personal development, are ready for independent creative work, reflection on their professional activities and insufficient development in psychological and pedagogical science of the problem of personal self-efficacy of psychology students, as well as the lack of special programs for its development at the stage of university learning, on the other.

The revealed contradictions led to the formulation of the following research problem: what are the psychological conditions that contribute to the successful development of students' personal self-efficacy at the stage of university education. In this regard, in the modern space of higher education, the problem of developing students' self-efficacy with the help of psychological means and methods becomes urgent.

1.2. Purpose of study

The purpose of our work was the development of the personal self-efficacy of students at universities of the Republic of Kazakhstan in the modern conditions of the development of society. In the course of the study, the following tasks were solved: to identify the specifics of the development of personal self-efficacy of university students; to develop and substantiate the psychological conditions for the development of personal self-efficacy of university students; to test the psychological conditions for the development of personal self-efficacy of students in higher educational institutions of the Republic of Kazakhstan.

2. Materials and Methods

2.1. Data collection

The following methods were used: theoretical analysis of scientific literature; experimental: ascertaining, formative and control experiments; psychodiagnostics methods and methods of mathematical and statistical data processing.

2.2. Participants

The experimental study was carried out in higher educational institutions - KazNPU named after. Abay, "Turan" University of Almaty, Kazakhstan. The experiment involved 280 students: 140 - in the experimental group, 140 - in the control group.

2.3. Procedure

According to our concept, self-efficacy is an opportunity to effectively use one's inner potential and be prosperous and effective in the educational, professional, and cognitive areas that lie in the premise of the future professional and sociocultural success of students throughout their lives.

We believe that one of the fundamental goals of higher educational institutions in organizing the educational process is to create such psychological conditions under which students acquire the skills and abilities of independent information search, corresponding to a high level of intellectual activity and communication. Considering the above, teachers are faced with the following tasks to form students' self-efficacy:

1. To develop students' motivation for self-development.
2. To promote the formation and development of students' ability to organize their independent educational and cognitive activities and communication, which includes the ability to use their time correctly, effectively use their personal and cognitive resources, reflect on their activities, focus on the achievement of results in any activity.
3. To form students' knowledge of time management, the assimilation of which will help students to effectively use their time, to succeed in their studies and social communication.

In our opinion, it is necessary to develop the following skills in students:

- the ability to find contact among peers and adults, as well as in other social environments;
- ways to establish positive relationships between people,
- the ability to choose an adequate form of behavior depending on the situation;
- continuously replenish their knowledge, develop their professional skills and abilities;
- to be confident in their abilities and skills to achieve their goals, to manage their behavior and methods of communication.

The psychological conditions were tested during the experimental work.

The first stage is the ascertaining experiment. At this stage, the work experience of educators was studied and summarized; we collected and processed data on the level of personal self-efficacy in the study participants; psychological conditions and a method for their implementation have been developed.

At the second stage, the psychological conditions for the formation of personal self-efficacy in the study participants were realized, taking into account the analysis and adjustments of the preliminary results.

At the third stage, a comparison was made of the data of the ascertaining and the final experiments, and an analysis was made of the effectiveness of the tested psychological conditions for the development of personal self-efficacy of university students.

To monitor the degree of formation of personal self-efficacy in the study participants, we used the following diagnostic methods (Table 1).

Table 1

Methods for diagnosing criteria and indicators of the development of personal self-efficacy of university students

Components	Criteria	Indicators	Diagnostic methods
Motivational and need-based approach	1) The need to achieve 2) The need for self-development	1) Strive to achieve the goals and effectiveness of its activities; 2) Strive to constantly self-develop, improve their abilities and individual qualities; striving, desire, interest in self-development	1) Test questionnaire for measuring achievement motivation (A. Mehrabian, adaptation by M.Sh. Magomed-Eminov); 2) Methodology "Need for achievement" Y.M Orlova; 3) Questionnaire "Diagnostics of the realization of needs in self-development" Nikitina E.P, Kharlamenkova N.E.
Emotionallyreflective	1) reflexivity; 2) a sense of self-confidence	1) Knows how to analyze and objectively evaluate the results of their activities and behavior; 2) A positive assessment of the individual's skills and	1) Questionnaire for determining the level of development of reflexivity (A.V. Karpov); 2) Test-questionnaire "self-Confidence" (V. G. Romeka)

			abilities is sufficient to achieve significant goals and meet their needs	
Activity-behavioral	Level of self-efficacy development		He can use his time effectively, perform priority tasks on time, strive to achieve goals, perseverance in achieving results and self-development	1) Self-efficacy test questionnaire (J. Maddux and M. Scheer, adapted by A. V. Boyarintseva); 2) The Schwarzer-Yerusalem scale of General self-efficacy (Russian version of R. Schwarzer, M. Yerusalem, V. Romek).

3. Results

The sample consisted of students from the higher educational institution KazNPU named after Abai, Turan University, Almaty, Kazakhstan. According to experimental data, the respondents (280 students) were divided into two groups. Each group is optimally equivalent quantitative and qualitative components: experimental group - 140 people, control - 140 people.

During the formative experiment, the experimental group was offered psychological conditions for the development of personal self-efficacy of university students, and the control group was trained without these conditions. To ensure that the conditions of the experiment were identical, the same teacher conducted classes throughout the experiment.

The results of evaluating the development of personal self-efficacy of university students are presented in tables 2, 3, and Fig. 1.

The Level of formation of individual self-efficacy of the subjects is given as a percentage and is presented in the following table (table 2)

Table 2

the level formation of individual self-efficacy in the experimental and control groups based on the results of primary and final diagnostics

Groups	The level of formation of individual self-efficacy (number of respondents n and %)											
	Low				average				high			
	Primary diagnostics		Final diagnostics		Primary diagnostics		Final diagnostics		Primary diagnostics		Final Diagnostics	
	n	%	n	%	n	%	n	%	n	%	n	%
EG (n=140)	53	37,8	24	17,1	61	43,6	75	53,6	26	18,6	41	29,3
CG (n=140)	55	39,3	51	36,4	58	41,4	61	43,6	27	19,3	28	20

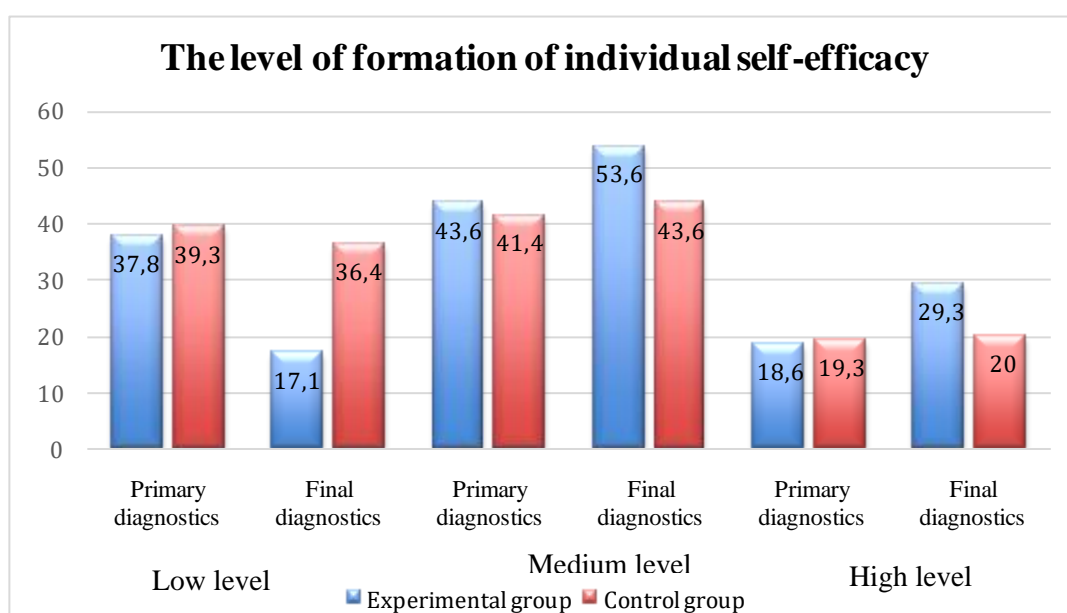
Analysis of the results of the first and second intermediate diagnostics showed that the number of students in the experimental groups with high and medium levels of personal self-efficacy has significantly increased compared to the ascertaining stage. So, if at the stage of the ascertaining

experiment, 20% of students out of all the subjects in the experimental group had a high level of personal self-efficacy, then according to the results of the second intermediate diagnosis, such students were already about 37.15%, and with an average level of 48.57%. In the control group, students showed minor changes in the levels of development of personal self-efficacy. For example, if at the initial diagnosis among them students with a high level of personal self-efficacy development were 22.9%, then according to the results of the final diagnosis, this level was detected only in 25.7%. A low level before the experiment was detected in 45.7% of respondents, while the results of the second diagnosis revealed a low level of personal self-efficacy in 40% of students.

For clarity, we present these data in the following diagram (Fig. 1).

Figure 1

the Level of personal self-efficacy development in students in the experimental and control groups before and after the formative experiment



At the next stage, we used the ϕ -criterion of the Fisher angular transformation to identify the reliability, i.e., the statistical significance of differences in the experimental and control groups of students in the formation of their self-efficacy (Table 3).

Table 3

calculation of the Fisher angular transformation criterion for the experimental and control groups on the formation of personal self-efficacy

Groups	"There is an effect" (personal self-efficacy formed)		A	"No effect" (personal self-efficacy is not formed)		D	Amounts
	Number of subjects	% share		Number of subjects	% share		
1 group EG	116	(82,9%)	A	24	(17,1%)	C	140 (100%)
2 group CG	89	(63,6%)	B	51	(36,4%)	D	140 (100%)
total	205			75			280

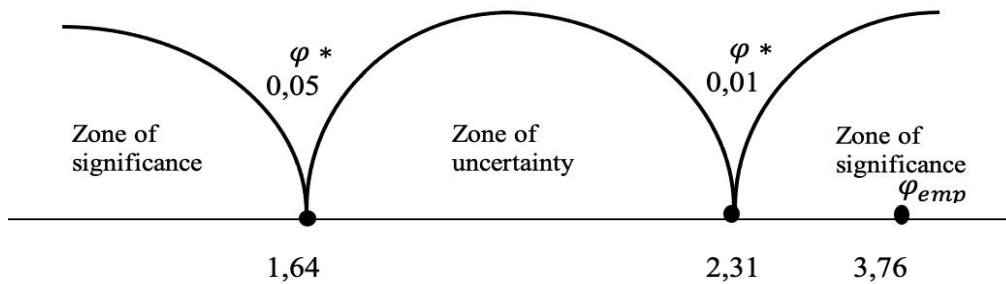
Note: for "There is an effect", we took the results for high and medium levels of personal self-efficacy. The calculation of the angular transformation criterion ϕ -Fischer is presented in the 4-table.

Table 4
Calculation of the criterion of the angular transformation ϕ -Fischer

Fischer's Criterion – ϕ				
	Corner ϕ	%		
$\phi 1$	2,288	82,9	0,91	n1 - number of people (observations) in the first group
$\phi 2$	1,846	63,6	0,80	n2 - number of people (observations) in the second group
n1	140	116		<-frequency of occurrence of the trait in the first group
n2	140	89		<-frequency of occurrence of the trait in the second group
$\phi_{emp}=3,699, p<0,01$				

Then we determine the location of the value of the Fisher empirical criterion on the significance axis (Figure 1)

Figure 1
Significance axis of the ϕ -Fischer criterion



Answer: $\phi^*_{empirical} = 3.699$. when $p < 0,01$. The obtained empirical value of ϕ^* is in the zone of significance. H_0 rejects

This empirical value of the Fisher's ϕ -criterion is in the zone of significance. This means that the percentage of individuals with a high level of personal self-efficacy development in the experimental group is higher than in the control group.

4. Discussion

Thus, we obtained statistically significant differences in the level of formation of personal self-efficacy in students from the experimental and control groups. The subjects from the experimental group formed a desire to achieve their goals and effectiveness in their activities; the desire to constantly develop themselves, improve their abilities and personal qualities; the desire and interest in self-development. They have developed reflexivity, the ability to analyze and objectively evaluate the results of their activities and behavior, which is extremely necessary for their personal development. This result corroborates with the results of Orlov et al. (2018).

Also, the subjects from the experimental group had a positive assessment of their skills and abilities as sufficient to achieve significant goals and meet their needs, the ability to effectively use their time, consistently set priorities, and perform priority tasks on time, and perseverance in achieving performance and self-development. This experiment gave the participants the awareness

that they are in control of their achievement and academic success. Hence, the experiment can be seen as successful. This result however is similar to the results of Adams & Blair (2019) who found out that students' time management affected their academic success. Similarly, Bursali & Öz, (2018) concluded in their study that students' awareness and goal setting had an impact on their academic and life achievements.

All of the above allows us to suggest a qualitative restructuring of previously existing methods of personal self-efficacy and correction of shortcomings in their development. The results obtained indicate the effectiveness of the development program developed by us for the formation of personal self-efficacy among students on the example of higher educational institutions of the Republic of Kazakhstan.

5. Conclusion

The study formulated and implemented psychological conditions for the development of personal self-efficacy of university students. Personal self-efficacy reflects a person's confidence in the effectiveness of their personal qualities. The personal self-effectiveness of a psychology student, being a professionally valuable meta-skill, is understood as a combination of the subject's ideas about the presence of professionally important qualities and his confidence that he will be able to use them in such a way as to achieve a positive effect when solving tasks. We believe that the development of personal self-efficacy of psychology students will be successful in the implementation of the following psychological and pedagogical conditions:

- development of students' reflexive abilities;
- deepening the understanding of their professionally important qualities and opportunities for their development;
- psychological impact on students' professional self-concept;
- strengthening realistic professional self-esteem and positive professional self-attitude of students;
- increase students' confidence in themselves and their professional potential.

The results of the experiment confirm the reliability of the positive dynamics of the development of personal self-efficacy of students in the experimental groups and allow us to track changes in the degree of development of self-efficacy of students during the formative experiment. The results of the study confirmed the effectiveness of our proposed model for developing students' self-efficacy. Developed and experimentally tested psychological conditions for the development of personal self-efficacy of students can be widely used in higher education institutions

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